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Effects of animal grazing on quality of grass and forb forages in Mazandaran province of Iran

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Abstract Effects of light (3 ha/cow/yr) and moderate (1 ha/cow/yr) stocking rates on forage quality of . . . were evaluated . Crude protein of forbs were generally greater than for others species under both , moderate and light stocking . Moderate stocking during rapid plant growth could positive affect on quality of available forage plants .

Key words : crude protein , dry mater digestibility , stocking rate , forage quality

Introduction Rangeland livestock productivity is influenced by the quality of forage consumed which , in turn , is a function of the quantity and quality of forage produced . Although climate is a major factor affecting forage quality in grasslands (Lauenroth et al .1994) , the major factors within a given climatic regime are the inherent productivity potential of the site and the kinds and number of plants present (i .e . , range condition) (Bartolome et al .1992) . The objective of this study was to evaluate effects of moderate and light stocking rates on the nutritional quality of available forages in a northern rangeland of Iran .

Materials and methods The study was conducted at the Chahardangeh Sari in a northern mixed-grass prairie of Iran .Vegetation is composed of ....Grazing treatments were year-long , continuously stocked with cattle at light (3 ha/cow/yr ; LG) and moderate rates (1 ha/cow/yr ; MG) . These treatments were initiated in 2004 and replicated twice in 4 pastures of similar conditions (Heitschmidt et al . 1991) . Crude protein(CP) , dry mater digestibility (DMD) and acide detergent fiber (ADF) responses of four species of grasses and three species of forbs to stocking rates were evaluated . Mean separations were accomplished using Tukey s procedure ($p<0.05$) .

Results Moderate stocking produced increases in CP and DMD for both , grasses and forbs , relative to light stocking . Forbs generally had greater forage quality than grasses in both stocking treatments (Table 1A-1B) .

Table 1 *Comparison between forage quality of grasses (A) and forbs(B) in different stocking rates .*

(A)

Category	Treatments	
	Light grazing(LG)	Moderate grazing (MG)
CP (%)	7 .2±0 .4^{b}	8 .5±0 .3^{a}
DMD (%)	49±0 .6^{b}	53 .6±0 .4^{a}
ADF (%)	46 .3±0 .9^{b}	44 .5±0 .8^{a}

(B)

Category	Treatments	
	Light grazing(LG)	Moderate grazing (MG)
CP (%)	10 .2±1 .3^{b}	11 .8±0 .9^{a}
DMD (%)	62 .3±3 .4^{b}	68 .6±2 .2^{a}
ADF (%)	31 .3±1 .4^{b}	29 .2±0 .9^{a}

a ,b significant difference ($p<0.05$) .

Discussion and conclusion Moderate stocking rate , during rapid plant growth , can positive affect forage quality of dominant grass and forb species on mixed-grass prairie of northern Iran . In addition , grass species in this study generally had lower forage quality than forb species which , is similar to findings from other parts of the world (Norton 1982 , Smith et al . 1986 , Holechek et al . 2005) .

References

Bartolome , J .W . , and M .P . McClaran ,1992 , Composition and production of California oak savanna seasonally grazed by sheep . *J .Range Mgt* 45(1) :103-107 .

Heitschmidt , R .K . , and J .W . Stuth (Eds) .(1991) Grazing management : An ecological perspective" . *Timber press* , Portland , OR .259pp .

Laurenroth , W .K . , D .G . Milchunas . , J .L . Dodd . , R .H . Hart . , R .K . Heitschmidt . , and L .R .Rittenhouse . , 1994 , Effects of grazing on ecosystems on the great plains . *In M .Varra , W .Laycock , and R .D .Pieper* (Eds) , Ecological implications of livestock herbivory in the west" . Soc .Range Mgt . , Denver , Co .PP . 69-100 .

Smith . B . , Leung , P .S . , Love , G . , 1986 , Intensive grazing management : forages , animals , Men , profits . *The graziers , Honolulu , Hawaii* , 350pp .

Norton , B .W . , 1982 , Differences between species in forage quality , *Farnham Royal* , UK , pp .80-110 .

Holecheek , J .L . , Pieper , R .D . , Herbel , C .H . , 2005 , Range management principles and practices . *Prentice Hall , Englewood cliff* , pp .174-283 .